

In re Patent Application of

MAIL STOP Appeal Brief

Theodore R. Zeigler

Reissue Application No. 10/779,641

Group Art Unit: 3635

Filed: February 18, 2004

Examiner: Bartosik, Anthony N.

For: EXPANDABLE AND COLLAPSIBLE Confirmation No. 9084  
STRUCTURES INCLUDING SPLIT  
SCISSOR ASSEMBLY

**AMENDED APPEAL BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The applicant appeals the final rejection as follows.

**I. REAL PARTY IN INTEREST**

The real party in interest is the assignee, World Shelters, Inc.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**III. STATUS OF CLAIMS**

All of the claims, claims 1-16 and 18-25, have been finally rejected. Claim 17 has been canceled. An amendment to claim 25 under 37 C.F.R. 1.116 is filed together with the present Appeal Brief in a separate paper. The claims on appeal, including claim 25 as amended under 37

C.F.R. 1.116, are provided in an Appendix. The final rejection of all of the pending claims is being appealed.

#### **IV. STATUS OF AMENDMENTS**

An Amendment Under 37 C.F.R. 1.116 is being submitted concurrently with the present Amended Appeal Brief to correct errors in paragraph [0037] and conform the disclosure in that paragraph to the original drawings at FIG. 5 and to broaden claim 25 to thereby eliminate issues for consideration on appeal by obviating certain formal errors identified in the claim after the Notice of Appeal was filed.

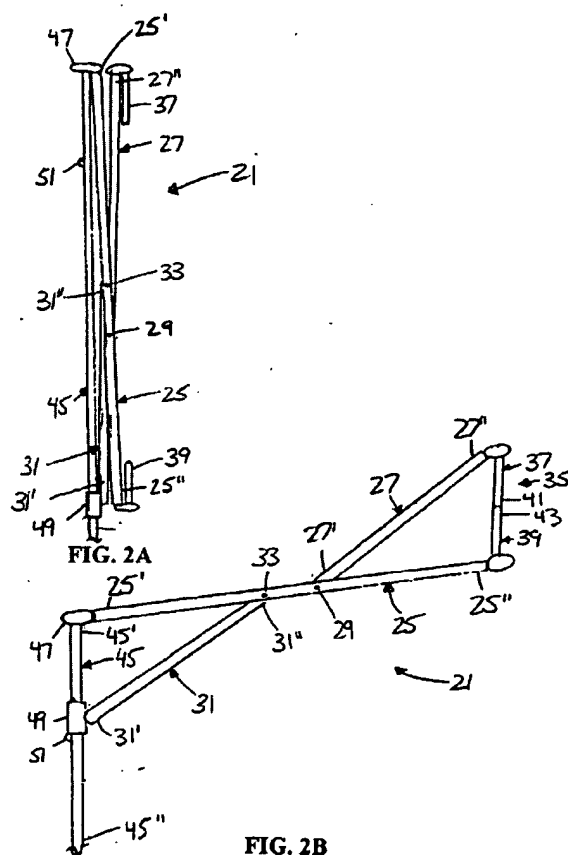
## V. SUMMARY OF CLAIMED SUBJECT MATTER

### A. Independent Claim 1 and Claims Dependent Therefrom

According to an aspect of the present invention as claimed in claim 1, an expandable and collapsible (split) scissor assembly 21 for an expandable and collapsible structure 23 is seen in FIG. 1. (Page 6, lines 19-20; paragraph [0020]) The split scissor assembly 21 is shown isolated in FIGS. 2A and 2B (reproduced here).

The split scissor assembly 21 includes a first strut 25 having a first end 25' and a second end 25". (Page 6, lines 22-23; Paragraph [0021]) The split scissor assembly 21 also includes a second strut upper portion 27 having a first end 27' and a second end 27". (Page 6, line 23, to Page 7, line 1; Paragraph [0021]) The first end 27' of the second strut upper portion 27 is pivotably connected to the first strut 25 at an upper strut connection point 29. (Page 7, lines 1-3; Paragraph [0021])

The split scissor assembly 21 also includes a second strut lower portion 31 having a first end 31' and a second end 31". (Page 7, lines 5-6; Paragraph [0022]) The second end 31" of the second strut lower portion 31 is pivotably connected to the first strut 27 at a lower strut connection point 33. (Page 7, lines 6-7; Paragraph [0022]) The lower strut connection point 33 is between the upper strut connection point 29 and



the first end 27' of the first strut 27. (Page 7, lines 8-9; Paragraph [0022])

The split scissor assembly 21 is movable between a folded position (FIG. 2A) in which the first end 25' of the first strut 25 and the second end 27" of the second strut upper portion 27 are substantially adjacent and the second end 25" of the first strut and the first end 31" of the second strut lower portion 31 are substantially adjacent, and an expanded position (FIG. 2B). (Page 7, lines 10-14; Paragraph [0023])

As claimed in claim 2, when the split scissor assembly 21 is in the expanded position, the first end 25' of the first strut 25 and the first end 31' of the second strut lower portion 31 are disposed proximate each other and the second end 25" of the first strut and the second end 27" of the second strut upper portion are disposed proximate each other. (Page 7, lines 14-18)

The application defines "proximate" as meaning that the strut ends are close but not necessarily adjacent to one another and is meant to contrast with the situation where the strut ends are particularly remote. (Page 7, lines 18-20; Paragraph [0023]) For example, when the split scissor assembly 21 is in the folded position, the first end 25' of the first strut 25 is at substantially the opposite end of the assembly from the first end 31' of the second strut lower portion 31 and those ends are not proximate in the sense used here. (Page 7, lines 20-23; Paragraph [0023])

#### **B. Independent Claim 16 and Claims Dependent Therefrom**

Independent claim 16 defines an expandable and collapsible structural module including left and right split scissor assemblies 21l and 21r substantially as described above in Section V.A. (Page 10, lines 3-7; Paragraph [0031]) Front and back scissor assemblies 59f and 59b are also provided, each scissor assembly 59f and 59b including a first scissor strut 61 and a second

scissor strut 63. (Page 10, lines 7-10; Paragraphs [0031]-[0032]) The front and back first scissor struts 61 each have a first end 61' connected to the second end 27'' of the second strut upper portion 27 of the left split scissor assembly 21l and the first end 25' of the first strut 25 of the left split scissor, respectively. (Page 10, lines 11-14; Paragraph [0032]) The front and back first scissor struts 61 also each have a second end 61'' connected to the second end 25'' of the first strut 25 of the right split scissor assembly and the first end 31' of the second strut lower portion 31, respectively. (Page 10, lines 14-16; Paragraph [0032])

The front and back second scissor struts 63 each have a first end 63' connected to the second end 25'' of the first strut 25 of the left split scissor assembly 21l and the first end 31'' of the second strut lower portion 31 of the left split scissor assembly, respectively. (Page 10, lines 15-18; Paragraph [0033]) A second end 63'' of the front and back second scissor struts 63 is connected to the second end 27'' of the right second strut upper portion 27 of the right split scissor assembly 21r and the first end 25' of the first strut 25 of the right split scissor assembly, respectively. (Page 10, lines 18-21; Paragraph [0033])

### **C. Independent Claim 21 and Claims Dependent Therefrom**

Independent claim 21 defines an expandable and collapsible structure including a plurality of expandable and collapsible structural modules substantially as described above in Section V.B. As seen in FIG. 1, for at least one pair of the modules, the modules are connected to one another in that a second end of a second strut upper portion and a second end of a first strut of a left split scissor assembly of one module is connected to a second strut upper portion and a second end of a first strut of a right split scissor assembly of another module. (Page 12, line 19, to Page 13, line 1; Paragraph [0038])

**D. Independent Claim 25**

Independent claim 25 defines an expandable and collapsible structural module 57 as shown in FIG. 5 including left and front split scissor assemblies 21l and 21f substantially as described above in Section V.A. (Page 11, lines 14-19; Paragraph [0035]) The module 57 also includes the right and a back scissor assemblies 59r and 59b. (Page 12, line 6; Paragraph [0037]) The right scissor assembly 59r is connected at a first end thereof to a first end of the back scissor assembly 59b and at a second end thereof to an end of the front split scissor assembly 21f and the back scissor assembly 59b is connected at a second end thereof to an end of the left split scissor assembly 21l. (Page 12, lines 7-15; Paragraph [0037])

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Review is requested regarding the propriety of the rejections of:

- claims 1-10, 15, and 25 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,274,980 to *Zeigler* (*Zeigler* '980);
- claims 11-14 under 35 U.S.C. 103(a) as being unpatentable over *Zeigler* '980 in view of U.S. Patent Application Publication No. 2002/0189659 to *Carter*; and
- claims 16 and 18-24 under 35 U.S.C. 103(a) as being unpatentable over *Zeigler* '980 in view of U.S. Patent No. 6,141,934 to *Zeigler* (*Zeigler* '934)

All of the claims are submitted to stand or fall together.

## VII. ARGUMENT

### A. Claims 1-10, 15, and 25 Are Not Anticipated by *Zeigler* '980

All of the claims recite language similar to that shown underlined in claim 1, below:

1. An expandable and collapsible scissor assembly for an expandable and collapsible structure, comprising:
  - a first strut having a first end and a second end;
  - a second strut upper portion having a first end and a second end, the first end of the second strut upper portion being pivotably connected to the first strut at an upper strut connection point; and
  - a second strut lower portion having a first end and a second end, the second end of the second strut lower portion being pivotably connected to the first strut at a lower strut connection point,  
wherein the lower strut connection point is between the upper strut connection point and the first end of the first strut and the scissor assembly is movable between a folded position and an expanded position, wherein, when the scissor assembly is in the folded position, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent.

It is asserted at Page 16 of the final Official Action that the structures in the '980 patent alleged to correspond to the second end of the first strut (bottom end of strut 232 in FIG. 3C) and the first end of the second strut lower portion (connection point of strut 228<sup>1</sup> to strut 220) are "substantially adjacent".

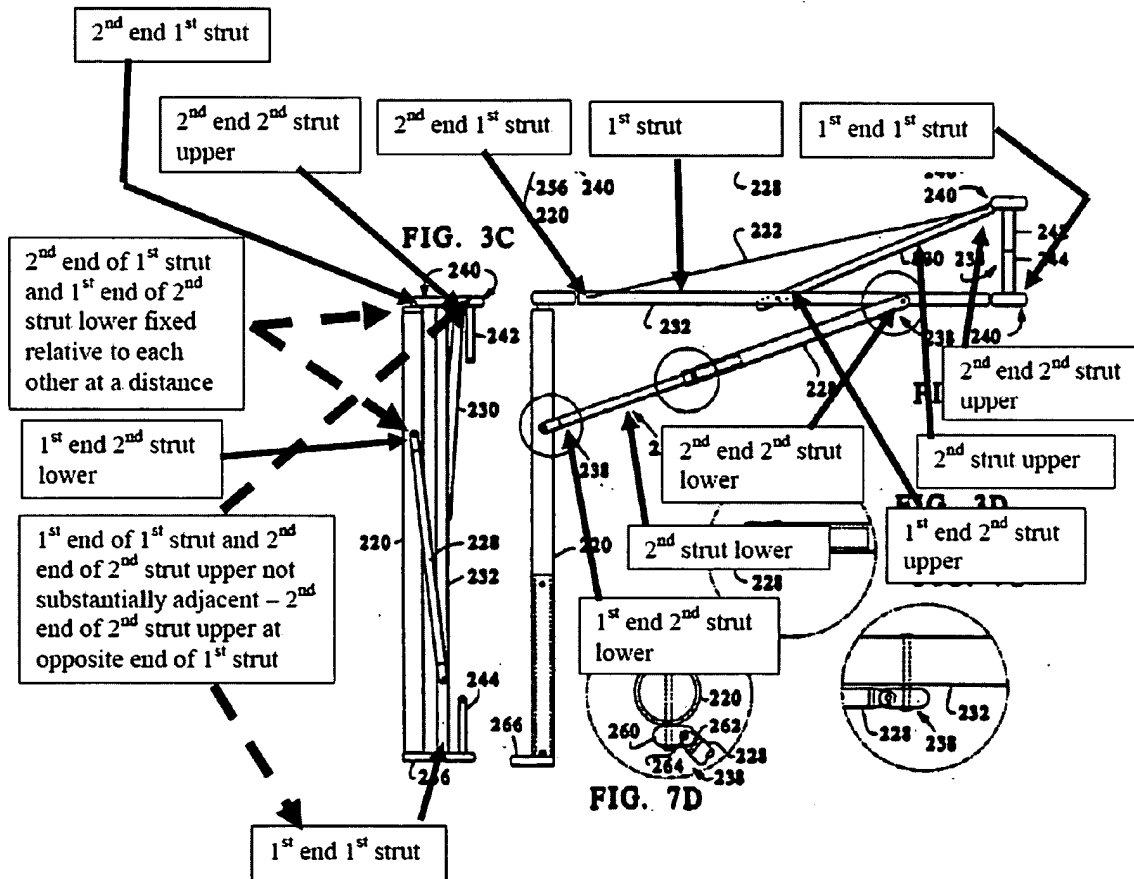
#### 1. *Zeigler* '980 Does Not Disclose "Substantially Adjacent" Strut Ends as Claimed

It is respectfully submitted that it is unreasonable to assert that the bottom end of strut 232 in FIG. 3C and the connection point of strut 228 to strut 220 are "substantially adjacent" and, therefore, there is no structure in *Zeigler* '980 that satisfies the requirement of the claims that, "when the scissor assembly is in the folded position, the first end of the first strut and the

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<sup>1</sup> The Official Action refers to reference number 224, which is the entire scissor assembly. Reference number 228 in *Zeigler* '980 is the strut in question.

second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent.” As can be seen from the annotated copies of FIGS. 3C and 7D of the ‘980 patent attached below, when the scissor assembly is in the folded position (FIG. 3C):



- the second end of the second strut upper portion is substantially adjacent the *second* end of the first strut at an *opposite end* of the first strut from the first end, i.e., not substantially adjacent the first end, and



- the second end of the first strut and the first end of the second strut lower portion are *fixed at a distance* to each other, i.e., not substantially adjacent.

## 2. “Substantially Adjacent” Excludes “At Opposite Ends of”

The present application provides a context for the expression “substantially adjacent”, and it is not alleged that the claims are indefinite. In paragraph [0023], components of the embodiment illustrated in FIG. 2A in a folded condition are described as being “substantially adjacent” and components of the embodiment illustrated in FIG. 2B in an expanded condition are described as being “proximate”. In paragraph [0023], proximate is defined as meaning that

the strut ends are *close but not necessarily adjacent* to one another and is meant to contrast with the situation where the strut ends are particularly remote. For example, when the split scissor assembly 21 is in the folded position, the first end 25' of the first strut 25 is at substantially the opposite end of the assembly from the first end 31' of the second strut lower portion 31 and those ends are not proximate in the sense used here. (emphasis added)

If “proximate” is defined as excluding “at opposite ends”, then the term “adjacent”, which is generally understood to suggest a closer relationship than “proximate” and which is used in a context in the quoted passage that indicates “adjacent” is closer than “proximate”, also excludes “at opposite ends”.

Even if one were to concede that “substantially adjacent” is an inexact term, under any conventional definition, and particularly in view of its use in the present application, “substantially adjacent” certainly excludes “at the opposite end of” and *Zeigler* '980 does not disclose a structure wherein, in a folded condition, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent.

Additionally, paragraph [0023] describes structures as being “proximate” each other

where they are illustrated as being spaced at a distance in the expanded embodiment of FIG. 2B. Specifically, the first end 25' of the first strut 25 and the first end 31' of the second strut lower portion 31 are described as being "proximate". Paragraph [0023] distinguishes "proximate" as being greater than "adjacent". In *Zeigler* '980 the only structures that could correspond to the second end of the first strut and the first end of the second strut lower portion are not substantially adjacent, rather, they are fixed at a distance to each other corresponding to a distance described in the present application as "proximate". Again, even if one were to concede that "substantially adjacent" is an inexact term, a structure that is proximate is not adjacent or substantially adjacent.

In view of at least the fact that there is no structure in *Zeigler* '980 that satisfies the requirement of the claims that, "when the scissor assembly is in the folded position, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent", it is respectfully submitted that the claims are not anticipated by and define patentably over *Zeigler* '980.

**B. Claims 11-14 Define Patentably over *Zeigler* '980 in View of U.S. Patent Application Publication No. 2002/0189659 to *Carter***

It is not alleged in the Official Action that *Carter* cures the defects of *Zeigler* '980 discussed in Section VII.A. with respect to claim 1, from which claims 11-14 depend. Nothing in either reference would have provided one skilled in the art with a reason for modifying *Zeigler* '980 to provide the features of claim 1. Accordingly, claim 1 and the claims dependent therefrom, including claims 11-14, are submitted to define patentably over *Zeigler* '980 in view

of Carter.

**C. Claims 16 and 18-24 Define Patentably over *Zeigler* '980 in View of *Zeigler* '934**

Independent claims 16 and 21 recite substantially the same subject matter as is recited in claim 1, together with additional subject matter. It is not alleged in the Official Action that *Zeigler* '934 cures the defects of *Zeigler* '980 with respect to the features of claim 1 discussed in Section VII.A. Independent claims 16, from which claims 18-20 depend, and independent claim 21, from which claims 22-23 depend, recite substantially the same subject matter as is recited in claim 1 and discussed in Section VII.A. Nothing in either *Zeigler* '980 or *Zeigler* '934 would have provided one skilled in the art with a reason for modifying *Zeigler* '980 to provide the features of claim 1, claim 16, or claim 21. Accordingly, claims 1, 16, and 21 and the claims dependent therefrom are submitted to define patentably over *Zeigler* '980 in view of *Zeigler* '934.

**VIII. CONCLUSION**

In view of the foregoing, it is respectfully requested that the final rejection of claims 1-16 and 18-25 be reversed, and that claims 1-16 and 18-25 be allowed.

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Respectfully submitted,  
  
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CLAIMS APPENDIX

1. An expandable and collapsible scissor assembly for an expandable and collapsible structure, comprising:

a first strut having a first end and a second end;

a second strut upper portion having a first end and a second end, the first end of the second strut upper portion being pivotably connected to the first strut at an upper strut connection point; and

a second strut lower portion having a first end and a second end, the second end of the second strut lower portion being pivotably connected to the first strut at a lower strut connection point,

wherein the lower strut connection point is between the upper strut connection point and the first end of the first strut and the scissor assembly is movable between a folded position and an expanded position, wherein, when the scissor assembly is in the folded position, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent.

2. The expandable and collapsible scissor assembly as set forth in claim 1, wherein, when the scissor assembly is in the expanded position, the first end of the first strut and the first end of the second strut lower portion are disposed proximate each other and the second end of the first strut and the second end of the second strut upper portion are disposed proximate each other.

3. The expandable and collapsible scissor assembly as set forth in claim 2, further comprising a lock for locking at least one of the first end of the first strut and the first end of the second strut lower portion and the second end of the first strut and the second end of the second strut upper portion proximate each other when the scissor assembly is in the expanded position.

4. The expandable and collapsible scissor assembly as set forth in claim 3, wherein the lock includes an upper hub and a lower hub pivotably connected to the at least one of the first end of the first strut and the first end of the second strut lower portion and the second end of the first strut and the second end of the second strut upper portion.

5. The expandable and collapsible scissor assembly as set forth in claim 4, wherein the upper hub and the lower hub including mating members for securing the upper hub and the lower hub proximate each other.

6. The expandable and collapsible scissor assembly as set forth in claim 3, wherein the first end of the first strut and the first end of the second strut lower portion are locked by a first lock and the second end of the first strut and the second end of the second strut upper portion are locked by a second lock.

7. The expandable and collapsible scissor assembly as set forth in claim 6, wherein the first lock includes an upper hub and a lower hub pivotably connected to the first end of the first strut and the first end of the second strut lower portion, respectively and the second lock includes a lower hub and an upper hub pivotably connected to the second end of the first strut and the

second end of the second strut upper portion, respectively.

8. The expandable and collapsible scissor assembly as set forth in claim 7, wherein the upper hub and the lower hub for each of the first and second locks include mating members for securing the upper hub and the lower hub proximate each other.

9. The expandable and collapsible scissor assembly as set forth in claim 3, wherein the lock includes a lower hub and an upper hub pivotably connected to the second end of the first strut and the second end of the second strut upper portion, respectively.

10. The expandable and collapsible scissor assembly as set forth in claim 9, wherein the upper hub and the lower hub for each of the first and second locks include mating members for securing the upper hub and the lower hub proximate each other.

11. The expandable and collapsible scissor assembly as set forth in claim 9, comprising a leg having an upper end and a lower end, the first end of the first strut being pivotably connected to the upper end of the leg and the first end of the second strut lower portion being pivotably and slidably connected to the leg between the upper end and the lower end.

12. The expandable and collapsible scissor assembly as set forth in claim 11, comprising a leg lock for locking the first end of the second strut lower portion proximate the first end of the first strut.

13. The expandable and collapsible scissor assembly as set forth in claim 11, wherein the leg is telescopic, the upper end being disposed on a first portion of the leg and the lower end being disposed on a second portion of the leg at least partially receivable inside of the first portion of the leg.

14. The expandable and collapsible scissor assembly as set forth in claim 11, wherein, when the scissor assembly is in the expanded condition and the leg is vertical, the second end of the second strut upper portion is disposed vertically above the second end of the first strut.

15. The expandable and collapsible scissor assembly as set forth in claim 1, wherein, when the scissor assembly is in the expanded condition and the first end of the first strut is disposed vertically above the first end of the second strut lower portion, the second end of the second strut upper portion is disposed vertically above the second end of the first strut.

16. An expandable and collapsible structural module, comprising:

a left and a right split scissor assembly, each split scissor assembly including a first strut having a first end and a second end, a second strut upper portion having a first end and a second end, the first end of the second strut upper portion being pivotably connected to the first strut at an upper strut connection point, a second strut lower portion having a first end and a second end, the second end of the second strut lower portion being pivotably connected to the first strut at a lower strut connection point, wherein the lower strut connection point is between the upper strut connection point and the first end of the first strut; and

a front and a back scissor assembly, each scissor assembly including a first scissor strut

and a second scissor strut, the front and back first scissor struts each having a first end connected to the second end of the left second strut upper portion and the first end of the left first strut, respectively, and a second end connected to the second end of the right first strut and the first end of the right second strut lower portion, respectively, and the front and back second scissor struts each having a first end connected to the second end of the left first strut and the first end of the left second strut lower portion, respectively, and a second end connected to the second end of the right second strut upper portion and the first end of the right first strut, respectively;

wherein, for both the left and the right split scissor assembly, the split scissor assembly is movable between a split scissor folded position and a split scissor expanded position, wherein, when the split scissor assembly is in the split scissor folded position, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent.

18. The expandable and collapsible structural module as set forth in claim 16, wherein, for both the front and the back scissor assembly, the scissor assembly is movable between a scissor folded position in which the first end of the first scissor strut and the second end of the second scissor strut are substantially adjacent and the second end of the first scissor strut and the first end of the second scissor strut are substantially adjacent, and a scissor expanded position.

19. The expandable and collapsible structural module as set forth in claim 16, wherein, for both the front and the back scissor assembly, the scissor assembly is movable between a scissor folded position in which the first end of the first scissor strut and the second end of the second scissor strut are substantially adjacent and the second end of the first scissor strut and the



first end of the second scissor strut are substantially adjacent, and a scissor expanded position.

20. The expandable and collapsible structural module as set forth in claim 16, wherein the first and second scissor struts are pivotably connected to each other.

21. An expandable and collapsible structure, comprising:

a plurality of expandable and collapsible structural modules, each module comprising a left and a right split scissor assembly, each split scissor assembly including a first strut having a first end and a second end, a second strut upper portion having a first end and a second end, the first end of the second strut upper portion being pivotably connected to the first strut at an upper strut connection point, a second strut lower portion having a first end and a second end, the second end of the second strut lower portion being pivotably connected to the first strut at a lower strut connection point, wherein the lower strut connection point is between the upper strut connection point and the first end of the first strut, a front and a back scissor assembly, each scissor assembly including a first scissor strut and a second scissor strut, the front and back first scissor struts each having a first end connected to the second end of the left second strut upper portion and the first end of the left first strut, respectively, and a second end connected to the second end of the right first strut and the first end of the right second strut lower portion, respectively, and the front and back second scissor struts each having a first end connected to the second end of the left first strut and the first end of the left second strut lower portion, respectively, and a second end connected to the second end of the right second strut upper portion and the first end of the right first strut,

wherein, for at least one pair of the modules, the modules are connected to one another in

that a second end of a second strut upper portion and a second end of a first strut of a left split scissor assembly of one module is connected to a second strut upper portion and a second end of a first strut of a right split scissor assembly of another module

wherein, for both the left and the right split scissor assembly, the split scissor assembly is movable between a split scissor folded position and a split scissor expanded position, wherein, when the split scissor assembly is in the split scissor folded position, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent.

22. The expandable and collapsible structure as set forth in claim 21, wherein, for at least one pair of the modules, a left split scissor assembly of one module is a right split scissor assembly of another module.

23. The expandable and collapsible structure as set forth in claim 22, wherein, for at least one pair of the modules, the modules are connected to one another in that a front scissor of one module is a front scissor of another module.

24. The expandable and collapsible structure as set forth in claim 21, wherein, for at least one pair of the modules, the modules are connected to one another in that a front scissor of one module is a front scissor of another module.

25. An expandable and collapsible structural module, comprising:

a left and a front split scissor assembly, each split scissor assembly including a first strut having a first end and a second end, a second strut upper portion having a first end and a second end, the first end of the second strut upper portion being pivotably connected to the first strut at an upper strut connection point, a second strut lower portion having a first end and a second end, the second end of the second strut lower portion being pivotably connected to the first strut at a lower strut connection point, wherein the lower strut connection point is between the upper strut connection point and the first end of the first strut; and

a right and a back scissor assembly, the right scissor assembly being connected at a first end thereof to a first end of the back scissor assembly and at a second end thereof to an end of the front split scissor assembly and the back scissor assembly being connected at a second end thereof to an end of the left split scissor assembly,

wherein, for both the left and the front split scissor assembly, the split scissor assembly is movable between a split scissor folded position and a split scissor expanded position, wherein, when the split scissor assembly is in the split scissor folded position, the first end of the first strut and the second end of the second strut upper portion are substantially adjacent and the second end of the first strut and the first end of the second strut lower portion are substantially adjacent.

**EVIDENCE APPENDIX**

None

Patent  
Application No. 10/779,641  
Attorney's Docket No. 000002-002

**RELATED PROCEEDINGS APPENDIX**

None